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ABSTRACT

Concerned about increasing academic achievement and reducing dropout rates, particularly among disadvantaged students, researchers have sought to apply human relations training to teachers in efforts to change the interpersonal aspects of the teaching-learning situation. This paper reviews six years of such work by two educational researchers (D.N. Aspy and F.N. Roebuck) who sought to apply Carkhuff's Human Resource Development Technology to educational problems. It discusses plans to extend the research into the psychological sub-strata of helping conditions, and cites two pilot studies. (Author/CJ)

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Delivering HRD Skills in the Public Schools

by
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In an effort to do something about increasing academic achievement, reducing drop-out rates and changing the national statistic that 1 out of 3 public school students generally, and 2 out of 3 students in disadvantaged populations, needed some kind of mental health therapy, Dr. Dave Aspy tested the hypothesis that something in the interpersonal aspects of the teaching-learning situation was negatively affecting the way in which students were learning. In one pilot study, 9 indices of mental health were administered to 750 sixth graders.[1] In 6 of the 9 indices, there was negative change from September until May and in only one of the other three indices, was positive change significant. (See Illustration 1.)

In a second pilot study, Dr. Aspy identified high and low functioning teachers and measured the gains of their students across a six month period.[2] The mean gains for the students of

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1. Study done at University of Florida, Gainesville, Florida, 1968.

2. Aspy, D. N. "The Effect of Teacher-Offered Conditions of Empatny, Positive Regard, and Congruence Upon Student Achievement." Florida Journal of Educational Research, 11, No. 1(1969), pp. 39-48.

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the high functioning teachers and those of the low functioning teachers are displayed on the second and third lines from the bottom of the Table in Illustration 2. The last line shows the differences in mean gain for the students in the two groups. Students of the high functioning teachers made higher gains by as much as a quarter to 3/4 of a year in a six month period.

Armed with the results of his pilot studies, Aspy and Roebuck approached NIMH for funding to conduct a larger research study into the effects on teacher behavior and student outcomes if a substantial number of teachers were trained to apply HRD skills in the classroom. The study was awarded 300,000 dollars (NIH Grant No. 5 PO 1 MH 19871) and data collection began in May, 1971.

The research design is displayed in Illustration 3. The first year sample included 7,400 students, 300 teachers and 12 schools. Because of mobility factors, the N was somewhat smaller for the second year of the study. In the third year, the study was replicated in a different state.

The first step in conducting the study was to pre-test the levels of teacher's functioning. In the Carkhuff methodology,[3] the 3.0 level is the level of minimally facilitative functioning. That is, at this level you are helping your students and clients. Below this level you are not helping and may even be hurting your students. The data showed that the study teachers were functioning below the minimally facilitative level. (See

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3. Carkhuff, R. R. Helping and Human Relations, Vol. I & II. New York: Holt, Rinehart and Winston, 1969.

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Illustration 1: Mean Change as Proportion of Pre-test Gained/Lost from September to May on 9 Indices of Mental Health (N=750 Sixth Graders)

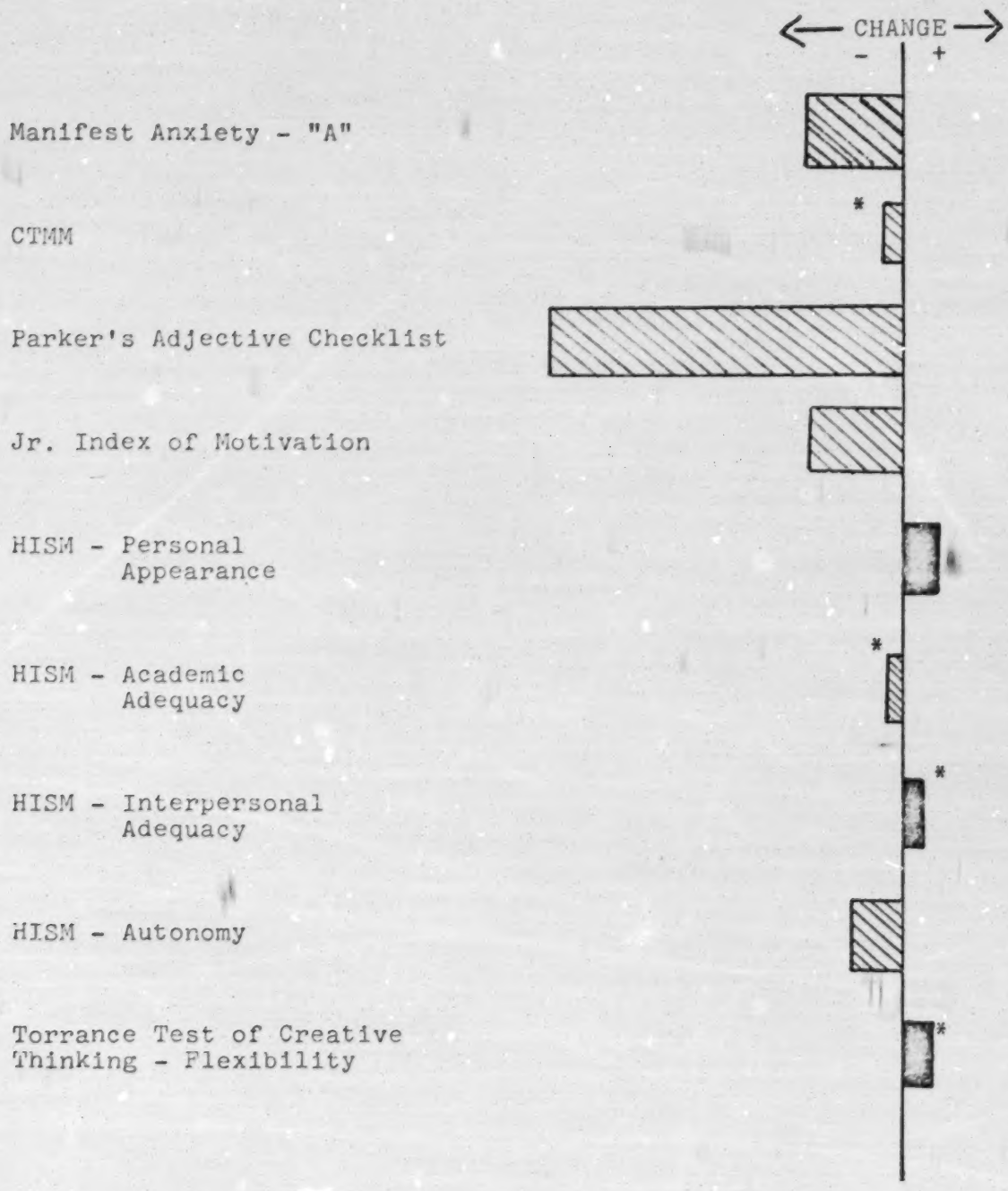

Illustration 2: Comparison of Gains on Iowa Achievement Test from October to April by Students of High Functioning Teachers versus Students of Low Functioning Teachers.

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Teacher	Total	Mean	Lang.	Mean.	Study	Spelling	Math
1 Hi	5.62	.88	1.11	1.00	1.55	.87	1.20
2 Hi	7.01	1.08	1.97	1.11	1.69	1.12	1.10
3 Hi	4.38	1.00	1.33	.79	.46	.83	1.21
4 Low	4.51	.83	.85	.80	.86	1.28	.96
5 Low	3.51	.37	.62	.74	.62	.96	.82
6 Low	4.03	.79	.62	.75	.82	1.06	.80
All Hi	5.67	.99	1.47	.97	1.28	.94	1.17
All Low	4.01	.66	.70	.76	.76	1.1	.86
Diff.	1.66	.33	.77	.21	.52	.16	.31

Illustration 3: Design

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Project Year 01

	EXP	CON
Grades 7-12	2	2
Grades 1-6	4	4

Treatment: E1

12 schools
300 teachers
7,400 students

Project Year 02

	EXP		CON	
7-12	2		1	
	EE	CE	CC	EC
1-6	3	1	3	1

Treatments: E2
E1 revised

11 schools
230 teachers
5,200 students

Project Year 03

	Ex-1	Ex-2	CON
7-12	2	2	1
1-6	2	2	1

Treatments: E2 revised
#1 rev.

10 schools
200 teachers
4,000 students

Treatment E1 - Process training only
Treatment E2 - Process & Application training

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Illustration 4.) This then, became the training goal: to raise the mean levels of teacher functioning to at least 3.0 on at least three out of five of the indices. That goal was attained. (See Illustration 5.)

This training gain was important because it meant that the teachers could now deliver helpful conditions to the students. The importance of this was pointed up by the differences in patterns of functioning between the control and experimental teachers. Since measures[4] were taken each month on the functioning of the teachers, it was possible to plot what happens across the school year. From September to May, control (untrained) teachers decreased in the levels of facilitative conditions offered to their students. (See Illustration 6.) The trained teachers, although they too had a December slump, recovered and went on to make gains by the end of the year. (See Illustration 7.) The two illustrations together make a mighty contrast.

Other outcome measures of teacher behavior included a Semantic-Differential self-report of how attractive their working conditions were perceived by the teachers. (See Illustration 8.) The solid black area represents the pre-test mean for the school district. The slashed area represents the post-test levels of attractiveness reported by the experimental teachers. In general, teachers reported their conditions as

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4. Aspy, D. N. Towards a Technology for Humanizing Education. Champaign, Illinois: Research Press Co., 1971.

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Illustration 4: Pre-test Functional Levels of Study Teachers

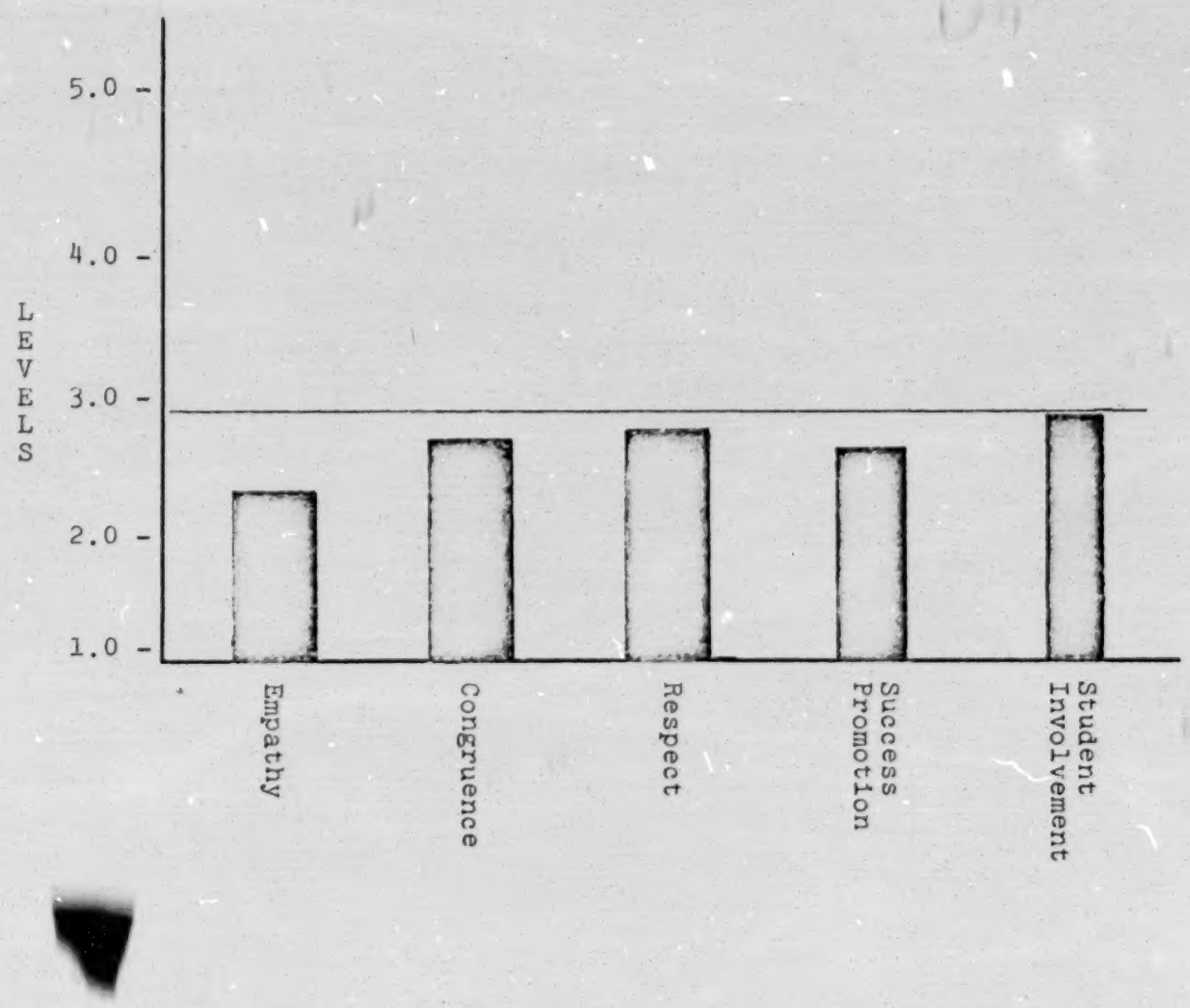

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Illustration 5: Gains in Functional Levels of Study Teachers

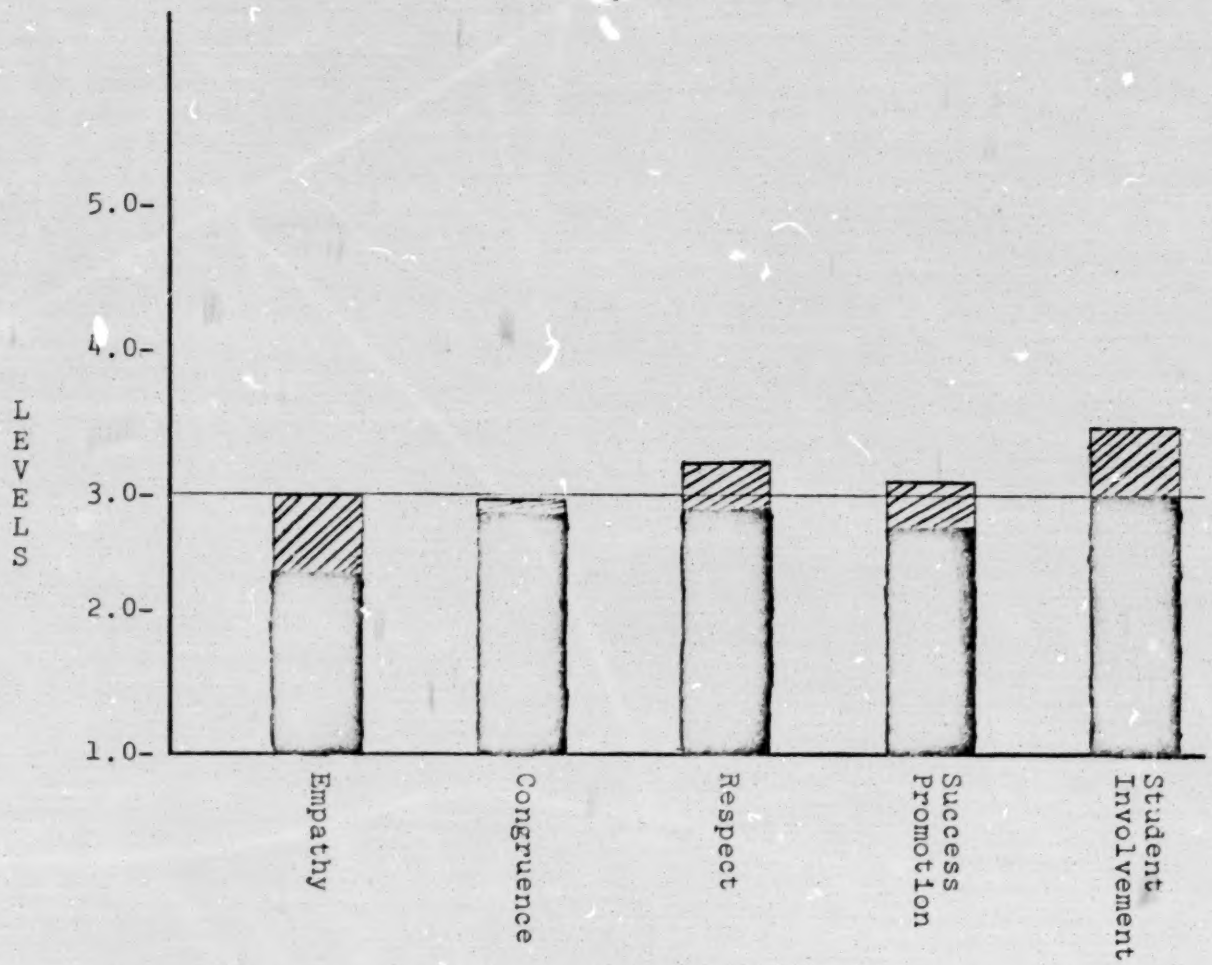

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Illustration 6: General Form of Commonly Occurring Negative Trends in Control Group Data

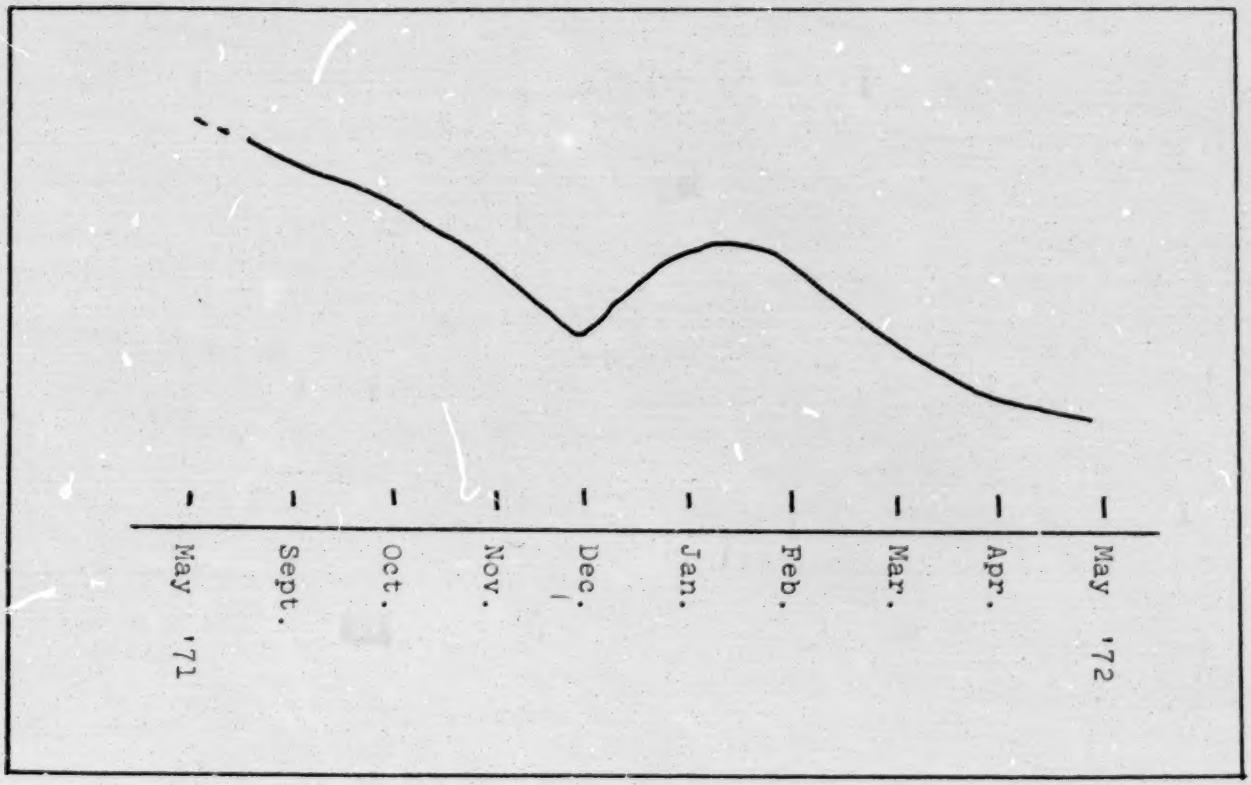

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Illustration 8: Changes in Perception of School Environment as reported on Semantic Differential by Experimental Teachers (N=128).

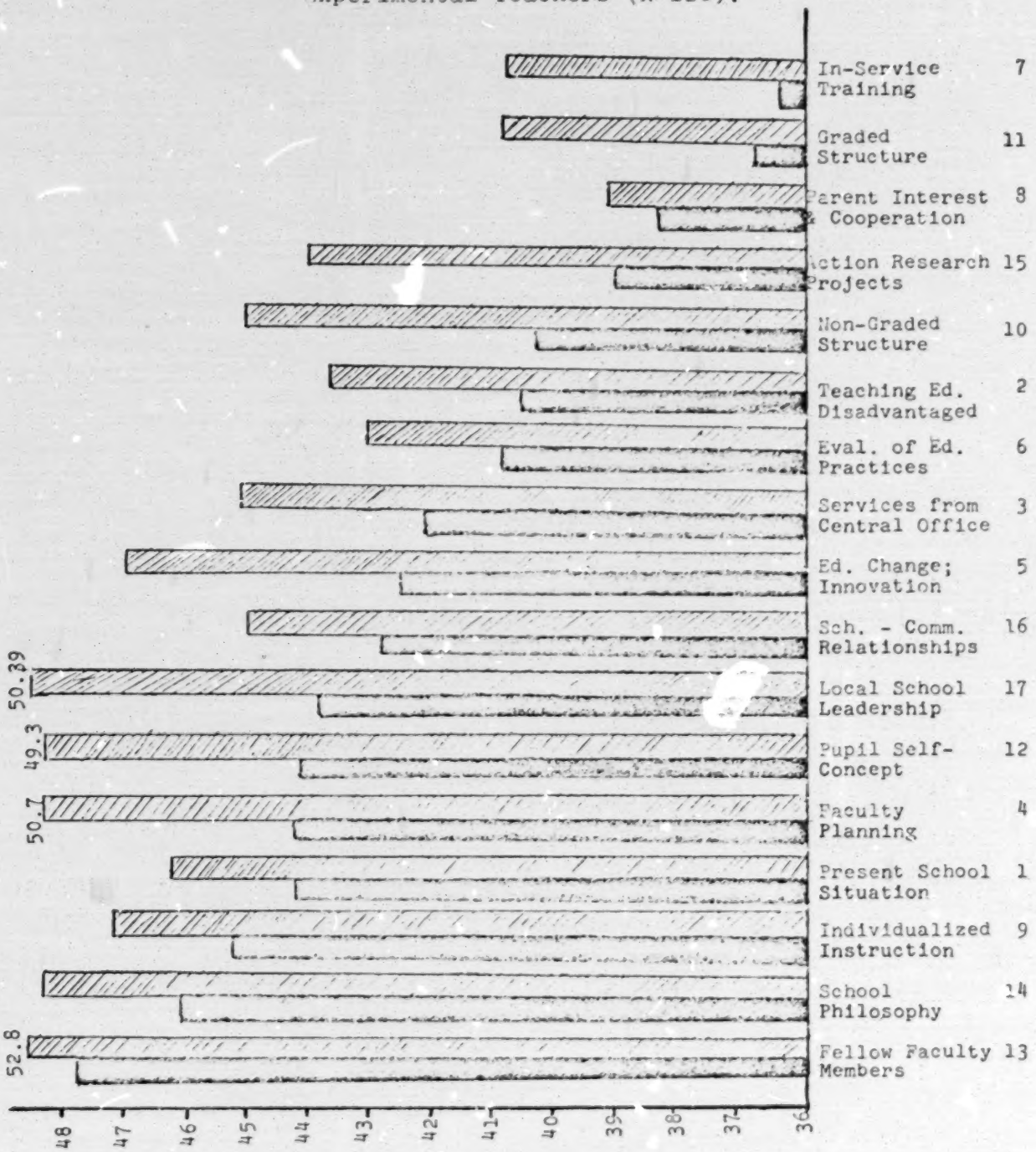

Illustration 7: Two General Forms of Commonly Occurring Significant Positive Trends in Experimental Group Data with Applications of Treatment Indicated.

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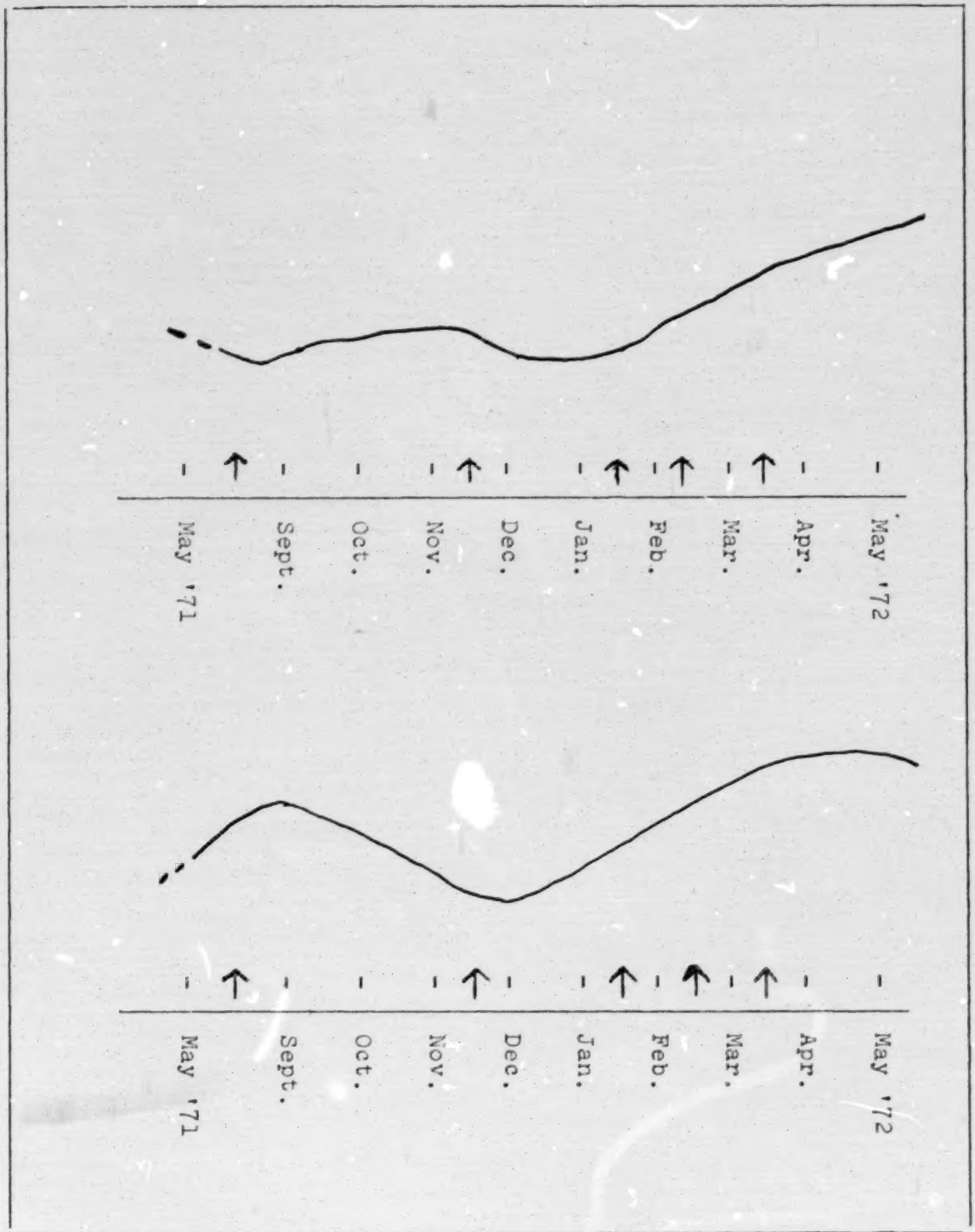

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more favorable after training. They reported that the four most attractive aspects of their environment were their fellow faculty members, faculty planning activities, working to develop pupil self-concepts and positive attitudes, and working with their school principals. Additionally, there was a 2/3 reduction in the number of behavior problems reported by the trained teachers. Backward elimination multilinear regression analysis was used to construct models for predicting teacher and student classroom functioning using data obtained from coding 5,000 hours of classroom instruction for ten Flanders Interaction Analysis Categories, ten Cognitive Functioning Categories, and five Interpersonal Process Scales. In 133 out of 150 models, an Interpersonal Process factor appeared as one of the 3 best predictors.[5]

Student outcomes are still being analyzed by the computer but we have some preliminary results. After the teachers had learned to make an interchangeable response, they were asked to select just two students and make an IR to them twice each day and keep observational records of the changes in the students' behavior. This chart represents the movement observed. (See Illustration 9.) Particularly important are the large increases in both the quantity and quality of teacher-pupil contacts.

The fall-to-spring achievement test and other student outcome data is currently being analyzed for significant changes.

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5. Roebuck, F. N. and Aspy, D. N. Response Surface Analysis: Interim Report No. 3. Monroe, LA: National Consortium for Humanizing Education, Northeast Louisiana University (National Institute of Mental Health, Research Grant No. 5 PO 1 Mh 19871), 1974.

Illustration 9:

Total Weighted Positive Change

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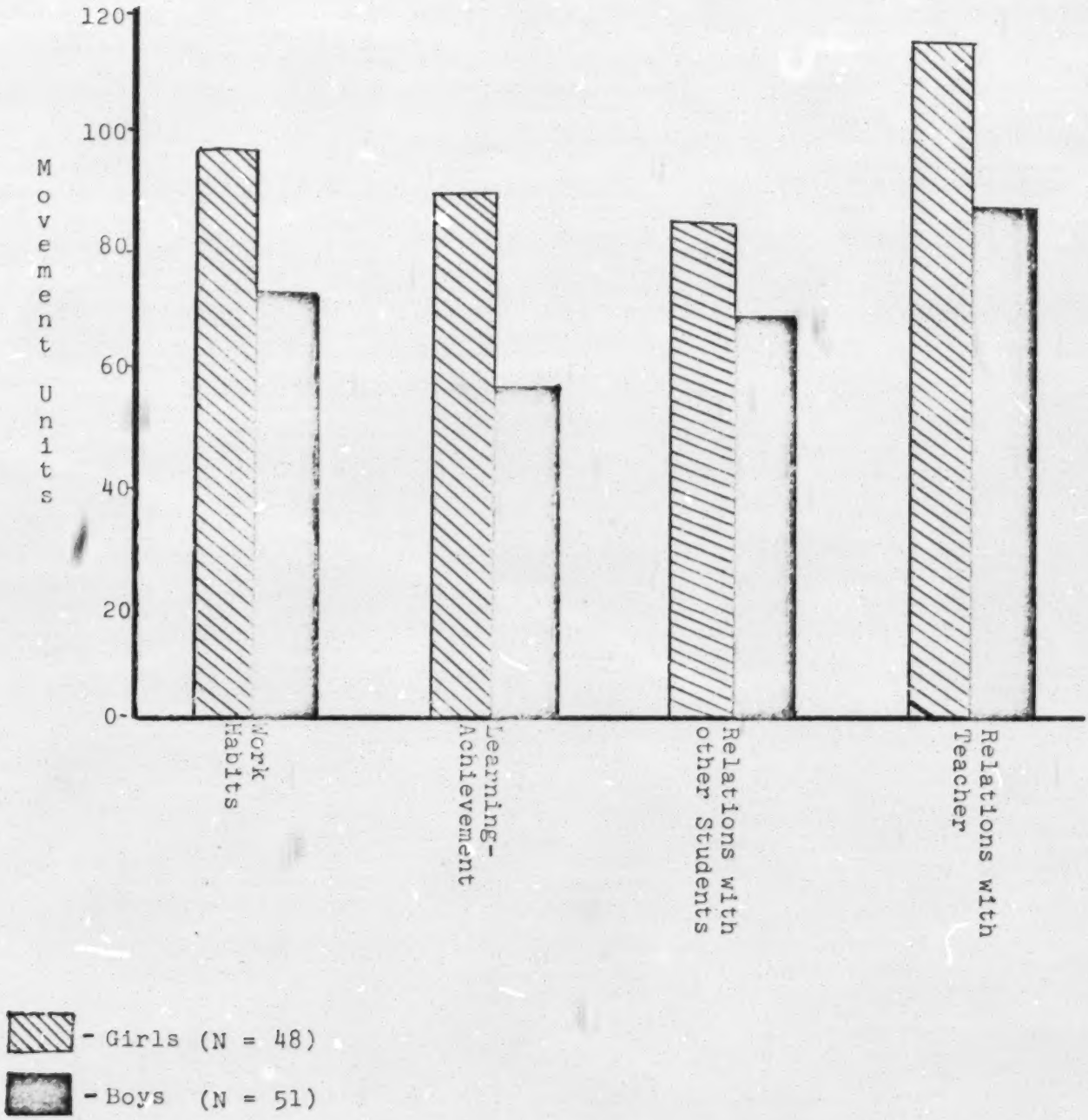

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So far 80% of the comparisons have shown higher gains for the experimental students.

The Consortium project will be completed in October, 1974. At that time the project will take its final form in a series of four books embodying (1) the research techniques (2) the training materials, (3) response surface analysis, and (4) the final research results. A series of journal articles will also be appearing.

Plans for continuing the Consortium training function will be on a consultancy and contract basis with individual school systems. A core of 10 professional trainers and 18 Peer Trainers (i.e., teachers trained to train other teachers) are now available and an additional 30 Peer Trainers will be available by the end of this year.

In its research function, the Consortium will be branching out into the physiological factors underlying the helping conditions. The first two pilot studies have been completed. In investigating changes in heart rates of students during academic tasks, the results included such findings as when a poor reader is called upon in the reading circle, his pulse may jump from 70 to 140 beats per minute.[6] It's pretty tough to carry out an intellectual task when your body is acting as if it has just run a hundred yard dash. In the second study, researchers found that the teacher's pulse rate is more highly variable and reaches

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6. Study at Murray State University, Murray, Kentucky, 1974, by D. N. Aspy and Ken Dean.

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much faster rates when the teacher is responding to students than when she is just dealing with intellectual ideas.[7]

In summary, I guess I could say that delivering Human Resource Development Skills to students is hard work ... but the outcomes are worth it.

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7. Study at North Texas State University, Denton, Texas 1974, by D. N. Aspy and June Buhler.